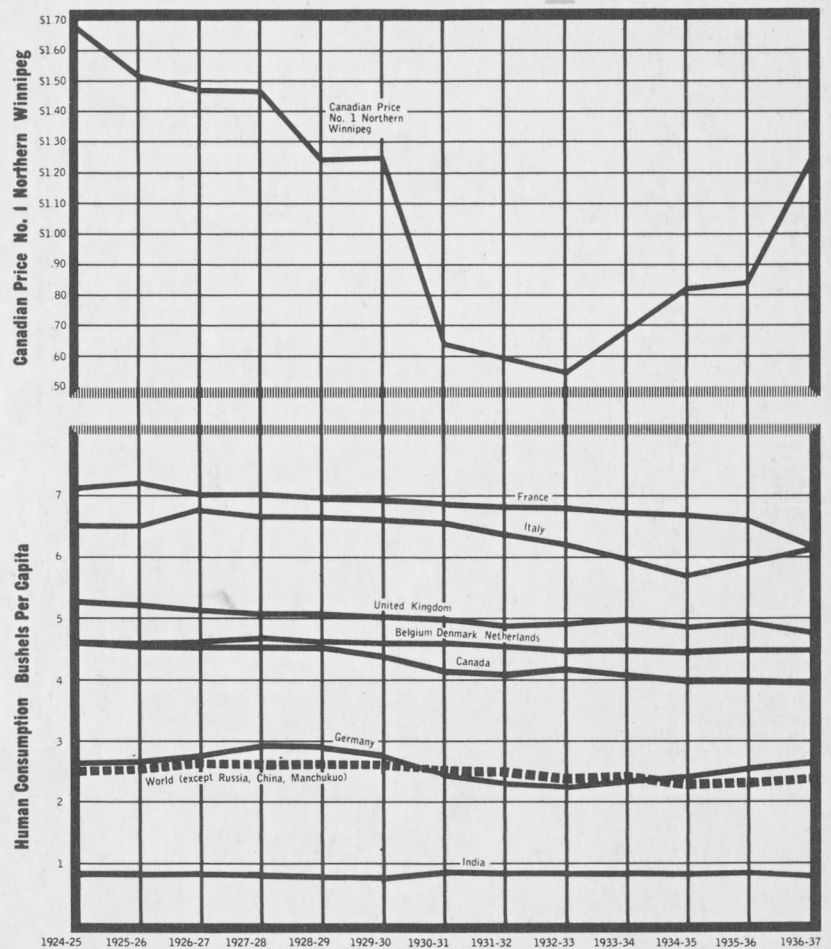


Mr. Geernaert

crises in wheat 1926-1954

☆ "An exceptional 'principle' applies to staple grain; because a fall in prices cannot generally increase its consumption as human food; and when it becomes dear, people will still buy enough of it to keep alive so long as they have means of purchase; in modern phraseology the demand for it is exceptionally inelastic."

—PROFESSOR
ALFRED MARSHALL,
in "Industry and Trade" 1919.



PUBLISHED BY THE SASKATCHEWAN WHEAT POOL

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crises in wheat 1926-1954

By ALEX R. CAMERON, in The Western Producer, March-April, 1954

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SASKATCHEWAN WHEAT POOL

June 1954—Regina

Foreword

Many Canadians have been giving much attention to the "wheat problem" during the last few months. The inability of the western farmer to sell at once all the grain he has produced has brought home to many business and professional groups how important the wheat farmer is in the Canadian economy.

Some of the public discussion has been discouraging to western farmers, however, because it has seemed to show a widespread misunderstanding of the wheat business. Glib assumptions that low prices will dispose of wheat or that acreage reduction schemes are a sure cure for over-production ignore the lessons of the past. The western farmer can never in his lifetime forget these lessons for they were impressed upon him by humiliation and despair. It discourages him to find that others forget more quickly.

As a reminder of what has happened before, the Saskatchewan Wheat Pool presents the following series of newspaper pieces recalling some items from the history of the international wheat trade during the last 30 years. Some of the solutions to the "wheat problem" currently being talked about have been tried before. Price wars, production quotas and acreage restrictions have all been applied to previous "wheat problems." The pieces in this pamphlet are chiefly concerned with the results of these earlier experiments.

The Wheat Pool hopes that the brief excursion into the past herewith undertaken will be useful to people who are interested in the wheat situation and concerned for the welfare of the western wheat grower.

—J. H. WESSON
President

The Anatomy of the Market

THERE are in the world about 1,200,000,000 bushels of wheat more than the world's consumers will eat this year. This surplus is only about one fifth or one-sixth of known quantities of wheat now in the world outside Russia and China.

Production in 1953 has been estimated at 5,280,000,000 bushels. The world carried forward from the previous year about 1,200,000,000 bushels of wheat in the four major exporting countries: Canada, the United States, Australia and the Argentine.

In addition there was a substantial volume of wheat in the hands of importing countries. But no figure can be given for this amount because most countries, the United Kingdom in particular, have been careful not to let the amount of their stocks be known. Without counting these stocks in importing countries, there were in sight at the beginning of the 1953-54 crop year about 6,400,000,000 bushels of wheat.

Consumption of wheat, including seed and feed for livestock, has been running between 4.5 and 5 billion bushels for several years now. It will probably be about the same this year. The prospect is, therefore, that the world will end the present crop year with a surplus in the neighborhood of 1,400,000,000 bushels of wheat. That is, by the end of July 1954 an amount roughly equivalent to 25 per-

cent of a year's supply for all wheat-using countries will be on hand in four nations which provide most of the wheat in international trade.

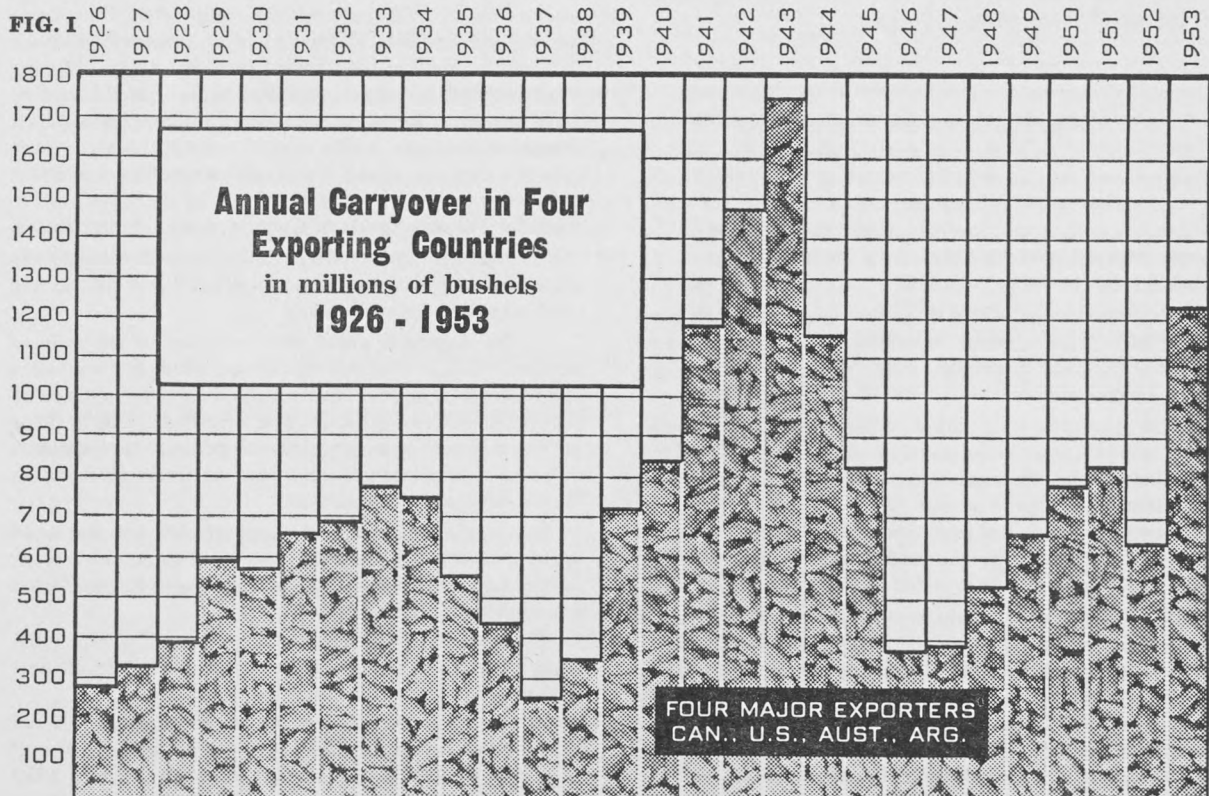
This huge surplus can be looked at in another way. The international trade in wheat has been running from 800,000,000 to 1,000,000,000 bushels a year since the end of the war. Therefore, the world is edging close to the possession of nearly a year and one-half's supply of export grain.

A surplus of this size is quite out of the ordinary, though it has occurred in the past. Usually, the carryover in the hands of the exporting countries amounts to 250,000,000 to 300,000,000 bushels.

This is enough to give importing nations assurance that their wants can be met and yet is not large enough to create a panic about markets in the exporting countries. The current surplus is four times this amount. It is not surprising, therefore, that a great many people can see the spectre of a "wheat problem" hovering over the world.

Wheat surpluses are not something new. The accompanying chart (Figure 1) showing the annual carryover in exporting countries illustrates how wheat has accumulated in the past and how it has disappeared again.

But, considering the dimensions of the current surplus, it is not surprising that there are a number of suggestions



being put forward for its dissipation. It would mean much to the western farmer if we could, overnight, magically reduce the world's surplus to something less than 500,000,000 bushels.

One of the suggestions sometimes offered to solve the wheat problem is to reduce acreage. The farmers of the United States last summer voted overwhelmingly for acreage reduction in order that they might maintain their present high floor price levels for wheat. There are people in Canada, too, who believe that the solution to the wheat problem lies in acreage reduction.

Then there are those who think the price of wheat is too high. They suggest cutting the price of wheat to a point where, they argue, it will sell in larger volume. They say that the way to dispose of wheat is to make the price attractive to the buyer.

There are others who maintain that the world's wheat surplus should be made available to people who are always hungry and who cannot buy wheat at any price. That is, they suggest that a part, at least, of present surpluses should be given to the people of Asia and Africa to help them improve their living standards and their standards of production.

Such help, they say, should be given in a way not to interfere with the normal development of overseas trade in wheat or other foodstuffs. It should be given as something extra, something that will not upset the customary economic pattern of the country getting the assistance.

None of these suggestions offers anything really new to the world wheat trade. At one time or another in the past these ideas, or various combinations of them, have been applied to the international wheat trade. It may be useful to see what effect they have had on the disposition of previous "burdensome surpluses."

* * *

The first point that stands out in even the most cursory examination of the history of wheat is that what are called "burdensome surpluses" have occurred twice previously in this generation. The first surplus emerged in the early 1930's just as the world was beginning to feel the magnitude of the depression which followed on the heels of the stock market crash in the fall of 1929.

The other period of big surpluses came during the war when all normal economic relationships were upset as a result of the need to mobilize every economic resource to wage a victorious war.

Now, however, in a period of high general prosperity when things appear to be about as near "normal" as they are likely to be for some time, the world begins to accumulate another large surplus. On the face of it, there are differences between the problems which emerged in connection with wheat in the two former crises and the problems that emerge in a period like the present.

One other fact is plainly evident from a glance backward. What appeared to be "burdensome surpluses" while they were in the process of building up, or at their peaks, rapidly melted away when another set of circumstances arose. The shifts in the carryover from 1926 to the present are shown graphically in Figure I. These figures represent the amount of wheat carried over in exporting countries at the end of each crop year. The range is from a low of

249,000,000 bushels to a high of more than 1,700,000,000 bushels.

The character of the spread between these extremes can be better expressed in another way. When the carryover was 249,000,000 bushels, it represented only seven percent of the world harvest for that year. The extremely high carryover of 1942-1943 represented 30 percent of the world harvest of that year. Incidentally, the 1953 carryover of 1,236,000,000 bushels represented 22 percent of the estimated 1952-1953 world harvest.

The point, however, to be made from Chart 1 is that both of the former world surpluses disappeared and in a fairly short time. It took four years after the peak of 1934 to get the carryover down to the lowest point it reached at any time during the 28 years under review.

After the peak of 1943, it was only three years until the world carryover was under 300,000,000 bushels. And at 300,000,000 bushels of carryover, the export world is literally sweeping the bottoms of its bins to find enough wheat to satisfy the divergent demands of its customers.

Just because a huge surplus has twice been followed quickly by a shortage is no proof that the present surplus will similarly melt away. This might be the exception to the rule. This might be the time when something more is needed than the passage of time.

But on the face of it, there is a good case for being patient and waiting to see what will happen.

Before we begin to speculate about the future, let's look back at some of the more common aspects of the wheat trade.

* * *

The modern wheat trade has grown up in just a little over a century. It began with the repeal of the Corn Laws in England in 1846. There had been international trade in wheat before then, of course. Canada had been shipping wheat through Montreal merchants to the United Kingdom for some time. And the repeal of the Corn Laws which equally opened the British market to United States wheat caused near riots among the Montreal merchants and was one more factor prompting them to lead a political movement for the annexation of Canada to the United States.

The big movement of wheat began to develop slowly after 1846. Its development was aided by events in the political and industrial world.

In the industrial world, the beginning of the railway age and the age of steam navigation gradually worked a revolution in transportation which made the expansion of the wheat industry possible. The British decision in favor of "cheap bread" also coincided with political developments overseas which opened vast new agricultural areas in North America and Australia.

Hence, the machinery of transportation and the rapid opening of new land overseas, conspired to permit Europe to become industrialized and urbanized and its population to expand rapidly.

The growth of the trade was slow until about 1885. Then it began to mount by leaps and bounds in all four of the present exporting countries.

In the Argentine, for example, the average annual increase in acreage devoted to wheat between 1890 and 1910 was 600,000 acres. In Canada from 1905 to 1920 about 1,000,000 acres a year were added to the wheat

fields of the prairie region. In the United States wheat acreage rose from an average of 48,500,000 acres for the years 1885-89 to 59,000,000 for the 1899-1904 period. This suggests an expansion of about 500,000 acres a year.

From 1846, down to the beginning of the 1930's the whole history of the wheat trade was one of expansion. World consumption increased at a steady rate in rough conformity with the growth of world population and a rising standard of living. World production moved forward in conformity with the expanding agricultural frontier. In new lands the rate of wheat expansion was much more closely linked to the extension of railway mileage than to the demand for wheat or its price.

Generally speaking, the period was also marked by a steady decline in wheat prices. The new soils of the Americas and of Australia produced large quantities of wheat at low cost. As new land was brought under the plow the price of wheat in terms of other commodities gradually fell.

The change in price did not materially alter the pattern of expansion in the new exporting countries. Numerous economies in the cost of production and transportation gave the individual grower reasonably good rewards, particularly when yields were high. The expansion slowed down only as the last frontier itself was reached.

In Europe, the price decline told another story. The flood of cheap overseas grain which developed after 1890 put the squeeze on the European wheat producer whose costs were not so flexible as those on the frontier. Around the turn of the century when the flood of wheat was rising rapidly, European nations began to erect moderate tariff barriers against cheap overseas wheat.

Only England held out for the economic advantage of cheap wheat. And it was not until 1932-1934 that the first advocate of "cheap bread" submitted to new pressures and began again to tax the British loaf.

It was not until the end of the First World War that the international wheat trade began to experience any serious difficulties. The war years had, understandably, interrupted production and distorted price levels. It was in the process of making re-adjustments at the end of the war and later while meeting the new situation of an apparently persistent surplus that flaws began to appear in the wheat economy.

* * *

Here is a general statistical picture of the international wheat trade at three periods after the First World War. In the table below, the first column of figures relates to

the average export and import of wheat during five moderately good years covering the crop periods 1922-1923 to 1926-1927. These were not the best years of the 1920's but they were good enough to provide the basis for the comparison with subsequent periods.

INTERNATIONAL WHEAT TRADE

Exports and imports by countries for selected years.
In millions of bushels.

	Five-year Average		Five-year Average
	1922-27	1932-37	1950-51
Exporters			
Canada.....	286.8	214.5	241.8
United States.....	180.1	12.4	380.0
Argentina.....	135.9	138.6	101.1
Australia.....	87.9	109.5	134.2
Russia and Danube States..	52.4	53.5	22.3
Others.....	33.8	43.3	25.1
TOTALS.....	776.9	571.8	904.5
Importers			
United Kingdom.....	205.0	207.8	161.6
Western Europe.....	392.1	197.6	378.4
Latin America.....	56.3	61.3	11.10
Asia (Exc. China, Man.).....	33.9	23.1	134.0
Africa.....	23.3	12.7	49.0
Others.....	40.9	52.5	91.0
TOTALS.....	751.5	555.0	925.0

The second column covers the years 1932-1933 to 1936-1937. These were the worst years of the worst decade in the international wheat trade. They show how bad things can get.

Finally, there is one good year in the period after the Second World War. The sharp edge had been taken off Europe's hunger by 1950 and the problems attaching to present day surpluses were still a long way off. These three representative calculations offer a reasonably good view of the changing pattern of international trade during the period to be looked at more closely.

This table illustrates the changing position which the United States has taken in the international wheat market during the three periods under consideration. Another change illustrated by the table is the emerging demand in Asia. These points will be considered at another time in greater detail. Finally, a map-chart illustrates the present distribution of the wheat trade. The figures used in it are the basis of the figures used in the last column of the table above.



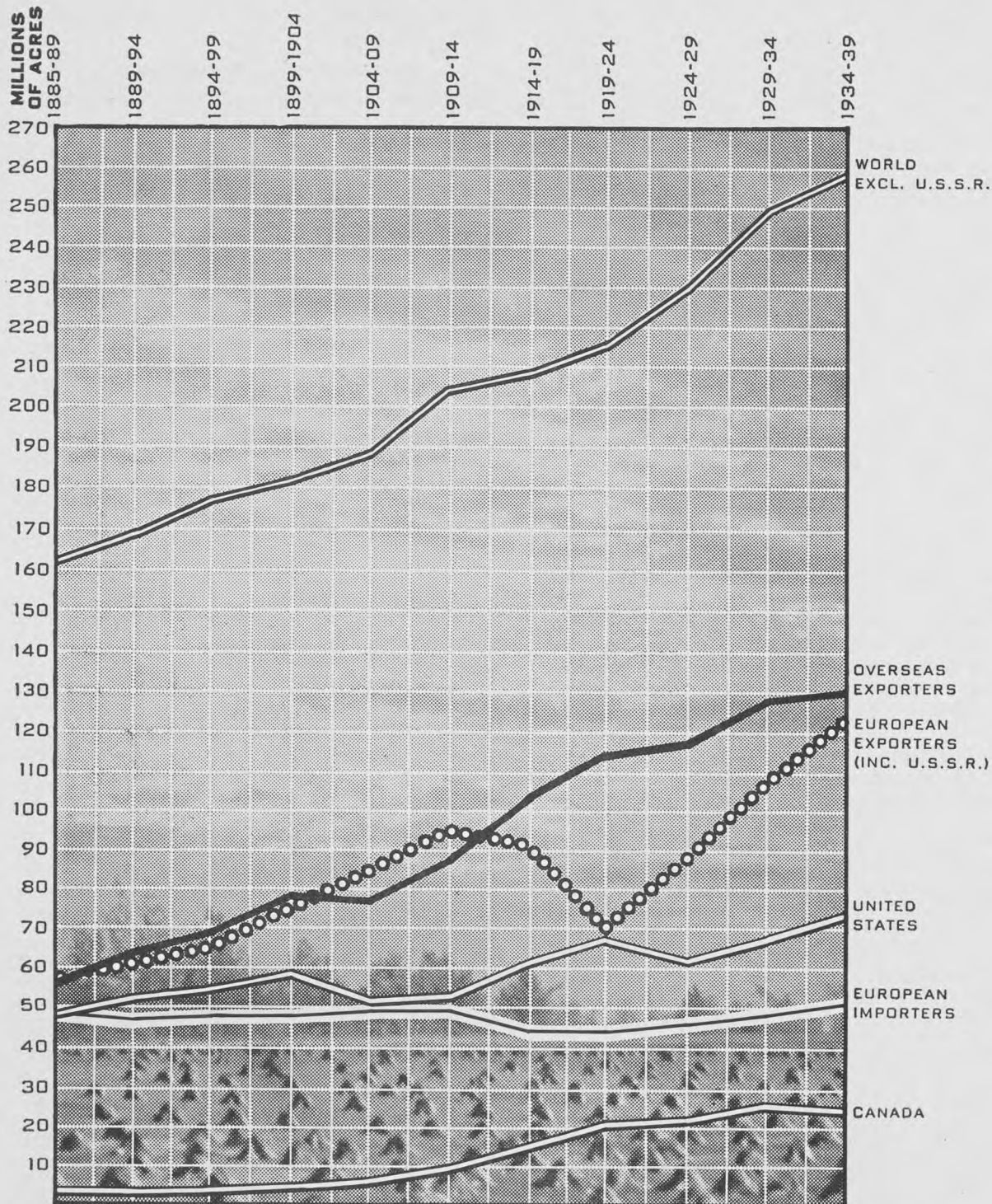


Figure II—From 1885 to the beginning of the Second World War, world wheat acreage expanded steadily, as shown in the graph above. Virtually the only exceptions occurred among European nations during and after the First World War. The information in this chart is drawn from Malenbaum: *The World Wheat Economy, 1885-1939*.

The Collapse in 1930

"THE 20th Century belongs to Canada," Sir Wilfrid Laurier proudly proclaimed soon after its birth. The people of Western Canada were never in doubt about the proposition up to, at least, the 1930's. And as far as they were concerned it was wheat that would patent Canada's title to the century.

Certainly it was wheat that sparked the growth of Canada during the first decade and a half of the 20th Century. Wheat, or the hope of it, built the railways and brought the immigrants. Wheat was solid wealth recognized in the markets of the world. Surely, there could never be too much Manitoba No. 1 Hard.

This was the spirit in which the West and Canada developed up to the beginning of the First World War. And this spirit revived quickly after the war had been painfully won. In other parts of Canada wheat had rivals after the war—pulp and paper and mining caught the attention of many. But in the West, no one doubted that wheat would continue to be the spark plug of the Canadian economy. The events of the 1930's shattered the faith of all but a very few congenital optimists.

The increase in wheat acreage was one of a number of factors that conspired in the late 1920's and the early 1930's to bring disaster on a global scale to the wheat producer.

Another factor was a fortuitous succession of good crops in many countries at the same time. This succession of good crops helped to contribute to the wheat surplus which the international market discovered on its doorstep in 1930.

* * *

The persistent enthusiasm for growing wheat exhibited by farmers everywhere is illustrated in the accompanying chart (Figure II). From 1885 to 1940 the trend toward a larger acreage of wheat was fairly consistent in all countries and groups of countries. There were exceptions such as the period of dislocation in Western Europe during the First World War and in Russia during the war and the period of the Russian revolution.

Acreage in the United States fell twice during the period but largely for reasons of domestic economic concern which were only distantly related to the wheat market. In general, the trend was to devote more acres to wheat production in each succeeding five-year period.

Variations in wheat yields on a world scale are usually quite small. De Hevesy calculates, for example, that, between the years 1923 and 1938, the three-year world average yield of wheat varied from a low of 13.6 bushels to the acre to a high of 14.4. This is a difference of only eight-tenths of a bushel. And if we take the point half way between the high and the low we get the figure of 14 bushels to the acre as representing the average crop for the period.

Looking at the individual years, here are the average yields just prior to the market's discovery of the surplus: 1925—14.4; 1926—14.1; 1927—14.0; 1928—15.0; 1929—13.3.

These small variations in yield or the increases in acreage hardly appear sufficient to create a "burdensome surplus" that will wreck the market. However, when these

WORLD CARRYOVER TABLE
MILLION BUSHELS

	Pro- duction	Con- sump- tion	Inc.* or Dec. in World Stock	World Surplus	Carry- over
1925-1926....				615	277
1926-1927....	3532	3500	*32	647	315
1927-1928....	3703	3653	*50	697	393
1928-1929....	3989	3729	*260	957	586
1929-1930....	3606	3647	-41	916	574
1930-1931....	3959	3874	*85	1101	656
1931-1932....	3878	3878	00	1001	682
1932-1933....	3820	3788	*32	1033	787
1933-1934....	3817	3747	*70	1103	743
1934-1935....	3484	3730	-246	857	551
1935-1936....	3587	3764	-177	680	350
1936-1937....	3527	3728	-255	425	249

(Ed. note: the figures in the first two columns of this table are taken from DeHevesy: World Wheat Planning. The figures in the fifth column are from The Grain Trade Year Book. The figures in the third and fourth columns are simple arithmetical calculations on the basis of DeHevesy's estimates of world production and consumption. The difference between "world surplus" and "carryover" is that the former takes into account wheat held in importing countries whereas "carryover" represents only wheat in the hands of the four big exporting nations.)

trends are combined, as in the world carryover table on this page their effect becomes apparent.

A study of the world carryover table shows that the carryover began to build up in 1926-27 and continued during the following year. Then, in 1928, when world acreage had risen to nearly 270,000,000 acres, an increase in the average world yield of one bushel to the acre produced a crop to which consumers simply could not adjust. Hence, about 260,000,000 bushels were added to the surpluses that had already piled up. Consumption did increase during the year and with it the international trade in wheat. The result was that the carryover figure rose by only 173,000,000.

International trade was exceptionally good in the 1928-29 crop year. Canada, for example, exported more wheat that year than it had ever done before. The price was about \$1.24 a bushel, and everything looked rosy. But when the 1929 crop started to come on the market, a strange resistance appeared among buyers.

For one thing, they were well stocked with wheat and they sat back to see what would happen. The price of wheat in the speculative markets had shot up during July 1929. Where wheat had been selling at from seven to eight cents above or below \$1.20 on the Winnipeg market throughout the crop year 1928-29, in July it went up to an average of \$1.59 for the month. This price range was carried into the new crop year with an average of \$1.58 for August, 1929.

With prices at this level and plenty of wheat on hand, European buyers sat back to wait and see what would happen. The first thing that happened was the stock market crash of October 29, 1929. This rocked the financial world, particularly the speculators. All commodity prices went down, wheat with them. By March, 1930, the average

Winnipeg cash price was down to \$1.06 and by July to 95 cents. The Great Depression had come to Western Canada.

This was the wheat situation at the time. The carryover in exporting countries stood at 574,000,000 bushels. International trade in wheat was running around 700,000,000 bushels a year. Hence, the carryover represented more than three-quarters of a year's supply.

It was by very long odds a buyers market by July 1930. Shortly it became a panic market among sellers. The Argentine and Russia both entered world trade with large quantities of wheat to sell at any price. They kept selling the market down to the point where importing countries were forced to extreme measures to prevent cheap overseas wheat from ruining their own agriculture.

On the basis of this examination of the wheat situation in the late 1920's and the early 1930's, it seems evident that the break in wheat prices was the result of a large surplus appearing when the whole economy was facing a period of drastic deflation. The surplus itself was the result of a period of high yields at a time when acreage was high.

Speculative pressures which kept wheat prices high in midsummer 1929 when there was a large volume of unused wheat in the world and when overseas customers were well stocked appear to have lighted the fuse for the subsequent market explosion. But it is hard to see from the record that price was a major factor in creating the surplus or that it altered consumption patterns.

* * *

The effect of a change in the volume of production, is shown dramatically as the surplus disappeared. The figures are in the world carryover table.

Up to and including the crop year 1933-1934, world production had been running slightly in excess of 3,800,000,000 bushels a year with consumption at a figure just under the volume of production. The surplus and carryover figures remained fairly constant.

Suddenly, in 1934-1935, production dropped by 400,000,000 bushels and in each of the two succeeding years was down 300,000,000 below the previous three-year average. But consumption continued at about the same level as before. The result was that in three years the world carryover in export countries dropped from 743,000,000 bushels to 249,000,000 bushels. And this was the lowest point carryover reached at the end of any crop year from 1922 to the present.

The average yield for the crop year 1933-1934 was about 14.3 bushels per acre and the world acreage was about 273,000,000. The following year, acreage dropped about 5,000,000 and the yield dropped to 13 bushels.

The effect of these two factors coming together resulted in a drop of more than 330 million bushels and an actual deficit of 246 million bushels below the level of world consumption.

As in a period of rising surpluses, it is these factors of acreage and yield which seem to determine whether the world gets too much wheat or too little. Consumption remains fairly constant or moves slowly either up or down. It is little influenced by price as we shall see later.

In many discussions of wheat, the theory is glibly advanced or subtly implied that a low price for wheat helps to correct a surplus position by persuading many farmers to retire from production or at least to reduce their acreage. And this is the way it should work according to the best economic theories. But there is a wide gap

between theory and practice when it comes to relating acreage to a falling price.

There is some evidence to show that farmers will quickly expand acreage in response to a good price or in the hope of one. They will neglect other crops to grow wheat if wheat is priced high enough. We saw that happen in Western Canada at the end of the war when a good price plus a ready market switched the production pattern on many farms from hogs to wheat. But it does not work so easily in the opposite direction.

One reason why it does not is that when wheat is in surplus position or when its price is low, the odds are that other farm commodities will be in distress also. There is, therefore, little incentive to grow something else.

Another reason why the farmer does not respond quickly to low prices is that he is inclined to look at his total income rather than price of a single commodity in planning production. During the late 1920's and the early 1930's there was, indeed, an inclination on the part of the farmer to try to improve his general income by growing more acres of wheat as the price went down.

The accompanying chart (Figure III) showing average wheat prices and acreage in Western Canada from 1922 to 1940 indicates the possibility of an inverse relationship between price and acreage. A year after prices began to fall between 1924 and 1925, acreage began to rise. It continued to rise with only one moderate set-back until 1932 when wheat was at its lowest price. Then as the price moved up acreage fell off. And it rose after 1937 when prices were falling once more.

Many factors other than price go into the decision to grow wheat. From 1925 to 1929, even though wheat prices were gradually working their way down, farming was prosperous and many farmers were induced to bring new land under cultivation. Moreover, much of this expansion was an automatic reaction to the popular belief that there could never be too much wheat in the world.

But from 1930 to 1932, when the world of wheat was tumbling about the ears of the western farmer, it appears that there was a definite attempt to expand acreage in the hope of getting enough of even low-priced wheat to meet the payments on the mortgage. Canadian policy supported this assumption by bonusing production by a subsidy of five cents a bushel.

* * *

If we look again at Figure II we see that world acreage devoted to wheat increased from an average of 230,000,000 acres during the prosperous latter half of the 1920's to an average of around 258,000,000 acres during the last five years of the 1930's. In other words, during the 1930's when wheat was selling at sawdust prices the world's farmers were increasing wheat plantings at the rate of more than 2,500,000 acres a year.

The line of the graph is nearly as steep in its last 10 years as it was during the 1920's when wheat was selling freely and at good prices. The upward trend during the 1930's occurred in all groups of countries, including Canada where prices were ruinous.

A long enough period of low prices might, indeed, starve enough farmers off the land to bring about a reduction of acreage which would effectively correct the world's apparent wheat surplus. But it would take a long time. It was not accomplished in the 10 years between 1929 and 1939. Moreover, it would take a drastic shift in

acres to bring about the desired result.

It was noted above that a reduction of 5,000,000 acres and a drop of one bushel per acre in yield wiped out a large part of the surplus after 1933. In this equation, the reduction in average yield cut the surplus by about 270,000,000 bushels while the acreage reduction cut it about 60 or 70 millions. When farmers decide to cut

acreage, they tend to lop off the least productive acres rather than the best.

It would take a very long period of very low prices (and no programs of farm relief) to bring about sufficient acreage reduction to correct a really stubborn surplus of production. Who would advocate such a policy as a solution to the wheat crisis?

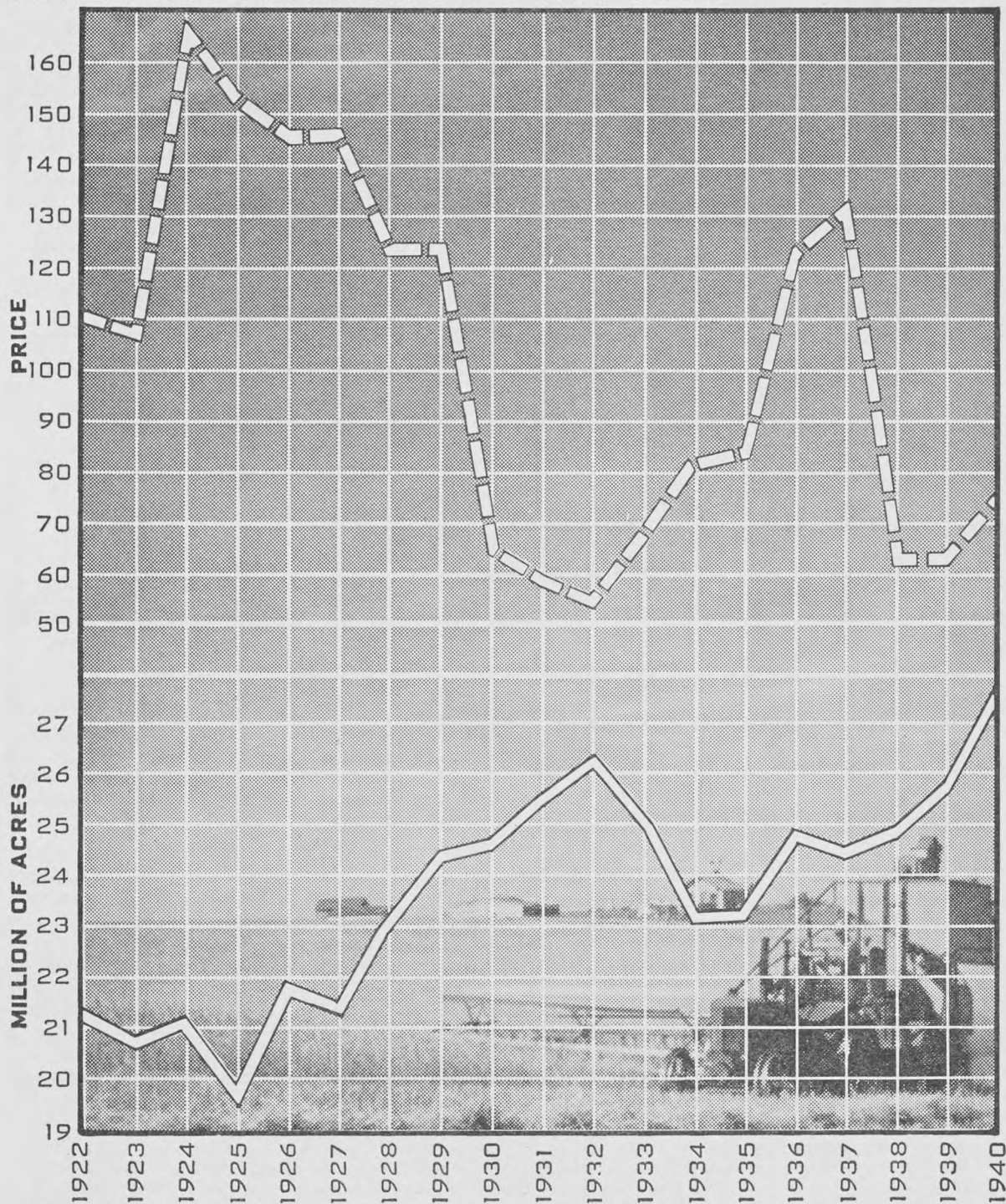


Figure III—The top line of this chart shows the annual averages of the daily cash closing price for No. 1 Northern wheat on the Winnipeg exchange. The information is taken from a statistical document prepared by the staff of the Turgeon Commission. The lower line of the graph represents the number of acres seeded to wheat in the three Prairie provinces. The lines move independently of each other.

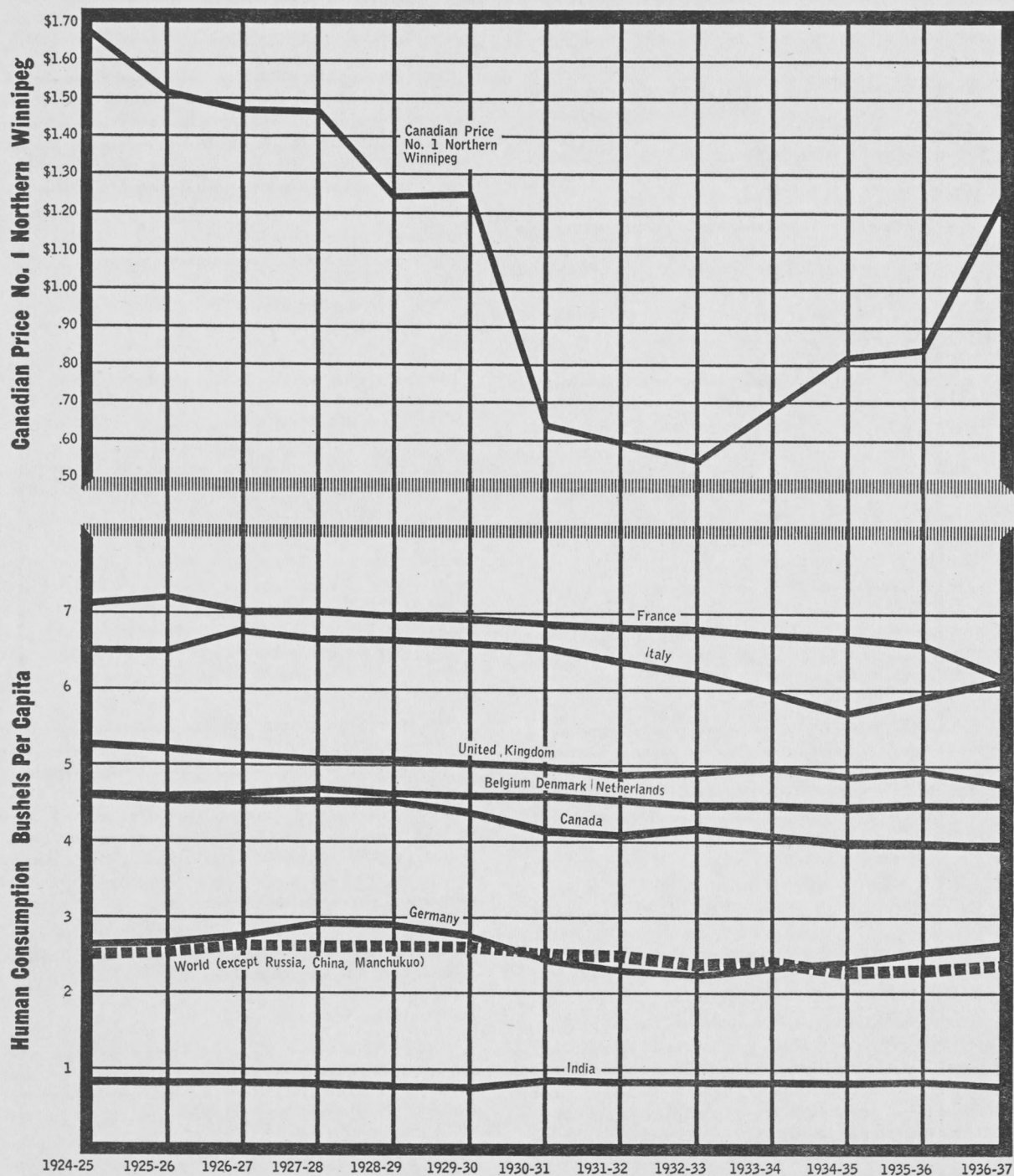


Figure IV—The bargains in wheat represented by the low points in the Canadian price level for wheat induced no corresponding increase in per capita human consumption which is illustrated in the lower graph. The figures for Canadian prices are taken from statistical material prepared for the Turgeon commission. Per Capita consumption figures are taken from de Hevesy: World Wheat Planning.

Low Wheat Prices Grow Tariffs

AS the world careened down the slippery slide of the depression in 1930 and 1931, the hand of every wheat importing country was out to give another downward push to those who could produce good wheat cheaply. The "Century of Cheap Bread" which the United Kingdom ushered in with the repeal of the Corn Laws in 1846 died before its time somewhere about 1932.

The demand for cheap bread was probably never more urgent than during the 1930's when the income of consumers in large industrial centres shrank to the vanishing point in the industrial depression. But, beginning in 1930 wheat began to get altogether too cheap for the comfort of governments in most European countries. They were faced with the dilemma of allowing their urban workers to benefit from the rapidly falling price of wheat in overseas exporting countries or of witnessing the destruction of their own farmers as a result of the flood of cheap wheat which was threatening to engulf them.

The choice was simple. There was, indeed, no real dilemma. It was easier, politically wiser, and much cheaper for the European governments to bonus the unemployed worker to permit him to buy dear bread than it was to let the farmer go bankrupt.

Hence, every European country chose to protect its farmers from the threat of cheap wheat. A new era of protectionism for agriculture was born in Europe. It was the offspring of the low price at which overseas countries were offering their wheat.

* * *

The price trend of overseas wheat is demonstrated by a graph on the opposite page, showing the Canadian average prices for the period between the wars. The prices of other exporting countries moved in relation to the Canadian price except for short periods early in the depression when wheat from the Argentine, in particular, was offered at a price substantially below that which it normally commanded in relation to Manitoba No. 1 Hard.

At around 60 cents a bushel in 1930 and 1931, Canadian wheat was one of the greatest food bargains in the world. Other wheats priced in relation to Canadian wheat were equally good buys. The consumer could not get better value at any point in his food budget.

The expectation is that consumers would rush to buy such great bargains, particularly when their budgets were being cramped by falling incomes and under-employment. We hear suggestions today, that Canada must reduce its price to stimulate its sales. But the experience of the 1930s casts some doubt on the usefulness of price cutting as means of getting people to eat more wheat.

When the price of wheat got down to the lowest level in history, the per capita consumption of wheat also declined. This is shown in Figure IV illustrating the level of consumption in several countries and in the world at large.

In general, per capita consumption was higher in the late 1920s when wheat cost more in relation to

other goods than it did in the 1930s. Consumption tended to decline in the 1930s when prices went down. The relationship is not one of cause and effect. Too many other factors help to determine the level of bread consumption to suggest that any simple explanation can cover the whole situation.

But it is evident that low prices in themselves do not stimulate consumption. The consumption of bread is too closely identified with long established habits to change quickly in response to price. Professor Alfred Marshall stated the situation clearly in his book "Industry and Trade" in 1919. Professor Marshall wrote:

"An exceptional 'principle' applies to staple grain; because a fall in price cannot generally increase its consumption as human food; and, when it becomes dear, people will still buy enough of it to keep themselves alive so long as they have means of purchase: in modern phraseology the demand for it is exceptionally inelastic."

Mr. Wilfred Malenbaum, writing in 1953, after an exhaustive examination of the international wheat situation with the more refined statistical tools now available to economists, says that the most reliable quantitative results support the Marshall principle. It is only fair to state, that Mr. Malenbaum and others have found that wheat consumption is slightly more elastic than Marshall indicated, but wheat consumption is not greatly influenced by price considerations.

In short, low prices will not encourage the consumption of wheat. The best that low prices can do is to transfer title of bread wheat from one set of hands to another. It may be possible to "sell" more wheat at low prices than at high. But all this kind of sale means is that the person or group buying at a low price is prepared to wait until the demand improves. The wheat remains in storage until it is consumed, irrespective of who "owns" it.

Low prices may, at times, encourage the use of wheat for animal food. But to the extent that wheat displaces other grains, the surplus will be merely transferred from one farm commodity to another. The advantage to the grain grower in this is doubtful.

The growing crisis in the wheat trade after 1930 forced one European government after another into protectionist measures to guard the position of their domestic wheat growers. The pattern was common throughout Europe.

The first response was to increase the tariffs against foreign wheat. When this was not sufficient, the governments in importing countries turned to quota restrictions and milling prescriptions or both to exclude foreign wheat at any price.

The extravagance of European protectionism is illustrated in the German wheat trade where duties were raised at one time to \$3.84 a bushel and all imports were controlled by the state. It was impossible, under these conditions, for any exporter to sell wheat to Germany

unless the German Government needed wheat to supplement what its own producers happened to harvest.

In such circumstances the German decision to buy or not to buy was not influenced by price but, rather, by the state of domestic supplies. This is clearly shown in Figure V: "Wheat Imports for Selected European Countries."

The wide fluctuations in German purchases during the 1930s, as indeed in the purchases of France and Italy as well, indicate that buying was dictated by the state of domestic supplies rather than by price. The governments of all these countries were purchasing just enough wheat

to maintain an adequate supply of bread in the bakeries. Their first concern was to keep their own farmers contented.

On top of the protectionism which developed in the 1930s, most European countries fixed the price of wheat to their own producers. It was this price that governed the cost of bread. These prices were artificially maintained well above the price at which wheat could be bought on the open market. Figure VI shows the relationship between the price of European-grown wheat and the price at which Canadian wheat was available to all comers in Liverpool.

No nation took advantage of these bargains in Canadian

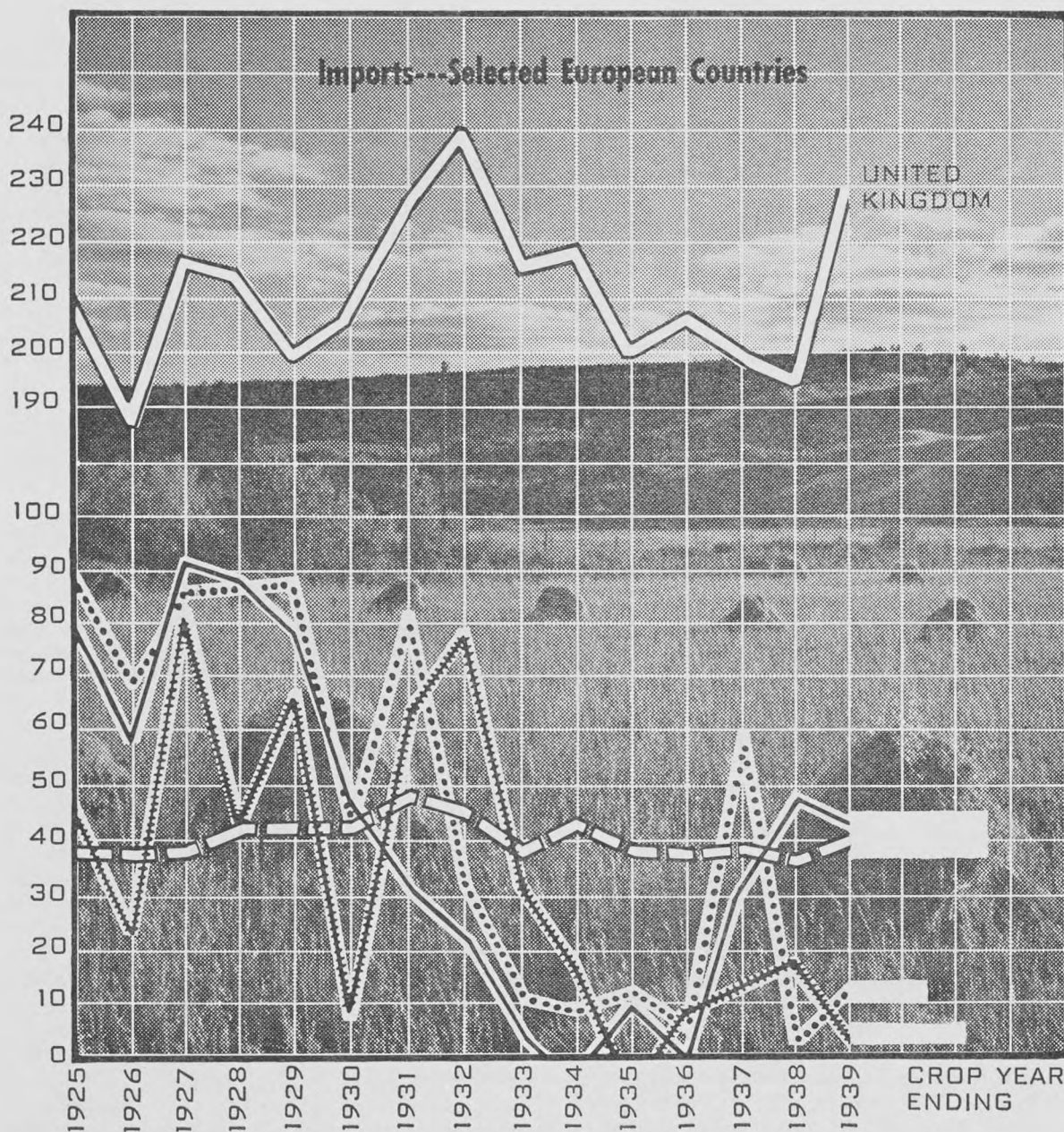


Figure V—The sharp variations which took place in European imports as a result of measures taken to protect domestic wheat producers during the 1930s makes a confusing pattern in the graph above. The graphs are based on information from de Hevesy.

and other overseas wheat except to eke out its own domestic supplies. With the price of Canadian wheat in 1933 at less than half the price European governments were willing to guarantee to their own producers, the people of Europe were missing a great baragin.

But sawdust prices did not help to sell wheat under these conditions. It was not possible "to wash away the tariff walls of Europe with a flood of low-priced wheat." All Europe did when the flood came was to raise its dikes a few degrees higher.

How Europe built up its dikes is shown by looking at the actions of some individual countries.

Belgium

During the first 30 years of the present century, the people of Belgium relied on overseas sources for about 75 percent of the wheat they used. The remainder was produced at home. Up to 1931 the Belgian Government ad-

mitted wheat duty free, but with the onset of low prices, the policy was gradually changed.

When wheat prices began to decline in 1930 and 1931, wheat production ceased to be attractive to Belgian farmers. Increasingly, they began to turn to the production of milk and meat where prices were better and more stable. But this shift soon brought domestic surpluses of meat and dairy products and the prices of these began to fall at an alarming rate. The government soon had a first rate agricultural crisis on its doorstep.

The solution, it seemed to the government, was to restore the price balance between wheat and other agricultural products. Therefore, the government created Cereals Office to supervise the use of grain.

Grain imports were made subject to permit from the Cereals Office and the office gave permits only when millers showed that they were using corresponding amounts of domestic wheat in the grist. In 1932, the government estab-

lished a milling prescription setting forth the amount of foreign wheat to be used in proportion to domestic wheat.

Throughout the rest of the decade, this prescription was varied in response to the local grain situation. In 1933 Belgium broke its long tradition of duty-free wheat to impose an import tax. The proceeds of the duty, along with other funds, was used to subsidize the production of wheat on Belgian farms.

The government did not greatly encourage the production of wheat and imports continued to make up from 68 to 70 percent of Belgium's wheat requirements. The volume of imported wheat remained about the same after the Cereals Office was set up as before, that is around 40,000,000 bushels a year. What the government and the country would not tolerate was the dislocation of domestic agriculture by cheap overseas wheat.

France

France began early to put duties on wheat imports. But as the wheat crisis deepened this process was speeded up and intensified as shown by the rates of duty prevailing in the following years. The rates are expressed in francs per quintal of grain.

1894 to 1921—	7 fr.
1921—	14 fr.
1926—	18 fr.
Sept. 1927—	25 fr.
Nov. 1927—	35 fr.
1929—	50 fr.
1930—	80 fr.
1936—	83.20 fr. equivalent to \$1.50 a bushel.

Later in 1936 after the devaluation of the franc, the duty was raised to

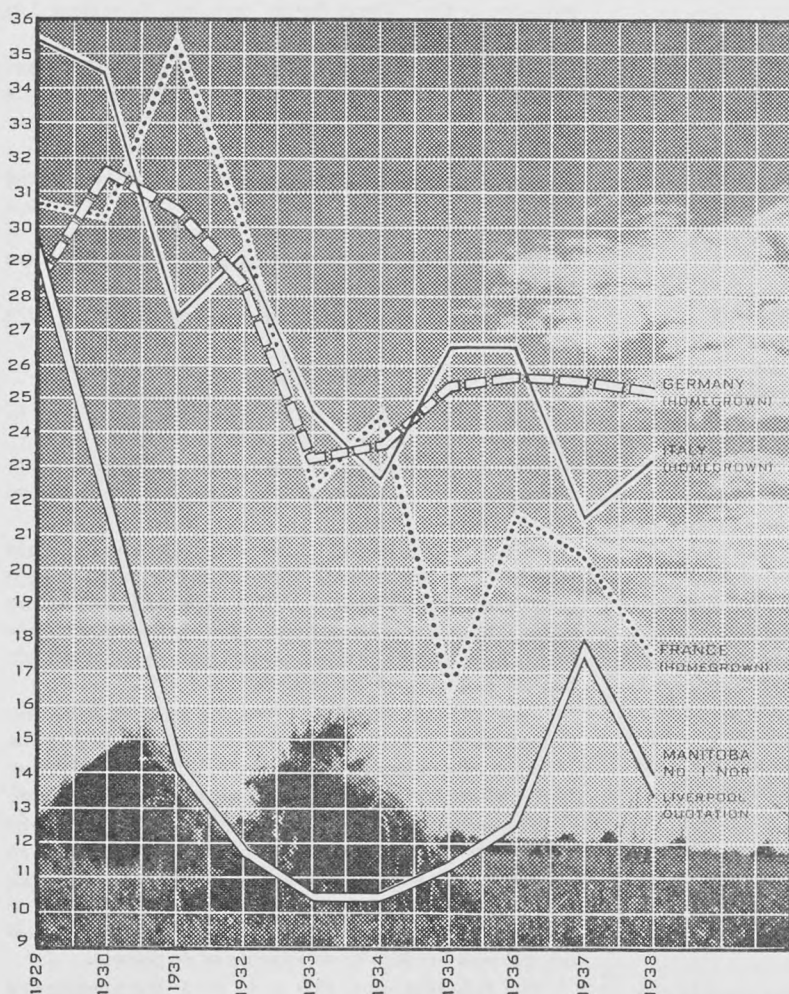


Figure VI—This graph shows the comparative prices for Canadian and European wheat in terms of gold. The numbers along the left side of the graph are gold francs per quintal. For the purposes of this comparison, the Swiss franc was taken as the gold franc basis and other prices converted into Swiss francs. After Switzerland devalued its franc, adjustments were made to reflect the changed value of the franc. These price figures do not necessarily represent the prices paid for domestically-grown wheat in Europe since they are adjusted to account for exchange differences. The graph is compiled from a table in de Hevesy.

96.30 fr. per quintal but at the new rate of exchange this amounted to a duty of only 98 cents per bushel. But it reduced by a proportionate amount, the price paid to overseas producers.

France established milling prescriptions in 1929. The law permitted the minister of agriculture to fix the proportion of domestic wheat in the grist. This was set at 97 percent in 1929 and subsequently reduced to less than 50 percent in 1933.

In 1933, however, it was again raised to 100 percent which meant that no foreign wheat could be imported into France except by special permission. In 1936, numerous wheat laws and ministerial powers were consolidated under one act and authority given to the National Wheat Board to manage domestic as well as imported wheat crops.

The reasons which prompted the French Government to intervene directly in the wheat trade during the 1930s were clearly set forth by Georges Monnet, minister of agriculture.

"We have at present a wheat situation in which production tends regularly to outstrip consumption. The area under wheat today is almost 2,000,000 hectares smaller than it was before the war, but such has been the increase in yield per hectare that the average annual production is as high now as it was in 1914. Consumption, on the other hand, has markedly decreased."

The net result of the French policy with respect to wheat is shown in the following table:

5 Year Period	Average Imports
1919-1922.....	59,900,000
1922-1927.....	55,400,000
1927-1932.....	51,100,000
1932-1937.....	10,000,000

(See also Figure V: Wheat Imports, Selected European countries.)

France, like Belgium, sought to maintain a balance in its agriculture. To maintain this balance it was forced to protect the French wheat grower by the exclusion of overseas wheat. As a matter of record, the French policy led to an actual surplus of wheat in 1934-1935 and France, since the Second World War has become a wheat exporting country with an export quota under the International Wheat Agreement. Agricultural policy, not the economics of cheap wheat, is the ruling factor in deciding whether France continues to produce high cost wheat at home or buys its wheat in the low-priced overseas markets.

United Kingdom

The United Kingdom did not intervene in the wheat market until 1932 when the government passed the Wheat Act. This aimed at the encouragement and stabilization of domestic production.

A tariff was placed on wheat originating outside the Commonwealth and Empire as part of the Imperial Preference Plan. Under the wheat plan, a tax was levied on all flour, whether milled from domestic, Commonwealth or imported grain to provide a fund from which a subsidy might be paid to British farmers. The policy had the effect of stimulating home production in subsequent years and thereby reducing the demand for imported wheat.

Germany

Germany began to raise the duty on imported wheat in 1928 when a rate of five Reichmarks per quintal was established. In 1930 this was raised to 7.50 Reichmarks and to 25 Reichmarks in 1931. By 1935 the duty stood at 35 Reichmarks per quintal which was about the equivalent of \$3.84 per bushel.

In 1929, as a result of the disturbance in domestic production arising from the heavy duty on wheat previously imposed, it became necessary for the German Government to assume direct control of the wheat and rye markets. All imports were virtually controlled by the government after 1933 when a national wheat policy was outlined. When imports were made by the government, the duty charged was only one Reichmark per quintal or about 11 cents a bushel.

Italy

On July 4, 1925, Mussolini officially proclaimed the initiation of the "Wheat Battle" by which he proposed to make Italy self-sufficient in wheat production.

The largest effort was directed toward the improvement of Italian farming methods and the reclamation and seeding of new land. Accompanying this policy the government began raising duties against foreign wheat.

Duties rose rapidly as prices fell after 1929 and the government also turned to the establishment of milling quotas. In 1936, the government assumed full control of all wheat production and marketing, including, of course the import of foreign wheat.

The duty on wheat was more than doubled from 1929 to 1931.

The Netherlands

This country offers a striking example of the way in which protectionist measures can influence farm practices. As the depression gained intensity and agricultural prices dropped, the government of The Netherlands was forced to act to save its farmers.

In 1931, in the face of falling wheat prices on the world market, The Netherlands Government imposed milling restrictions in the Wheat Act. This required Dutch millers to use 20 percent of homegrown wheat in their grist. Normally, little if any Dutch wheat was used in the bread mix because of its low gluten content.

From 1931 on, however, increasing amounts were prescribed until, in 1939, Dutch millers were required to use 35 percent home-grown wheat. In 1931, the price of home-grown wheat was set at the equivalent of \$1.37 a bushel.

The milling prescription and the fixed price, turned many Dutch farmers from other crops to wheat. Between 1924 and 1931 the farmers of The Netherlands had been devoting from 120,000 to 150,000 acres to wheat production. The next year after the price was fixed, wheat acreage rose to 190,000, an increase of 26 percent.

The following year, that is in 1933, the government imposed a duty of 15 cents a bushel on wheat. The government also devalued its currency which raised the fixed price for Dutch grown wheat to the equivalent of \$2.17 a bushel.

The result was an immediate shift from other production to wheat growing. Wheat acreage in The Netherlands in 1930-1931 had been 140,000. In 1931-1932 it rose to

190,000. In 1932-1933 after the duty was imposed on wheat and the currency devalued, Dutch acreage rose to 300,000 or by more than 100 percent of the long-term average.

It remained above this level until 1939 except for one year. Indeed, the Netherlands Government was obliged to limit Dutch farmers to planting one-third of their land in wheat.

This summary of the reaction in some European countries to the threat of a flood of cheap wheat from overseas is indicative of what happened in other countries. Multiplied by importers in nearly every part of the world, the protectionism which grew up in the 1930s demoralized the international wheat market.

It is true that protectionism manifested itself in many ways in many countries during the 1930s. But special attention was given to wheat in importing countries because wheat was cheap and because it was an easy commodity to regulate and because by regulating it the European governments could do more for their own farmers than by tackling any other commodity.

Wheat bore more than its share of restrictive practices in the 1930s. There is little reason to believe that wheat would not, once again, bear the brunt of a protectionist

attack if its price dropped to a level to threaten the security of farmers in importing countries.

It is evident from the action of European governments in the 1930s that the price mechanism for disposing of surpluses was not allowed to operate. Moreover, it takes a long time for a reduction in the price of wheat to be reflected in the consuming habits of a nation. In many nations, notably those with a high standard of living, consumption continues to decline even when bread is the cheapest food available. Low wheat prices can tempt some people from the use of rye bread to the use of wheat bread over a considerable period of time. This happened in several European countries during the early years of the century when living standards were rising rapidly. But it has not been accomplished in a short time. It is a long-run process more closely allied to a changing standard of living than to the price of wheat alone.

The assumption that a low price for wheat will stimulate consumption in the short run, is not justified by the events of the 1930s. What does seem to be justified, however, is that low wheat prices will stimulate a flourishing crop of tariffs, quotas and milling prescriptions to bedevil the overseas producer and drive him deeper into distress.



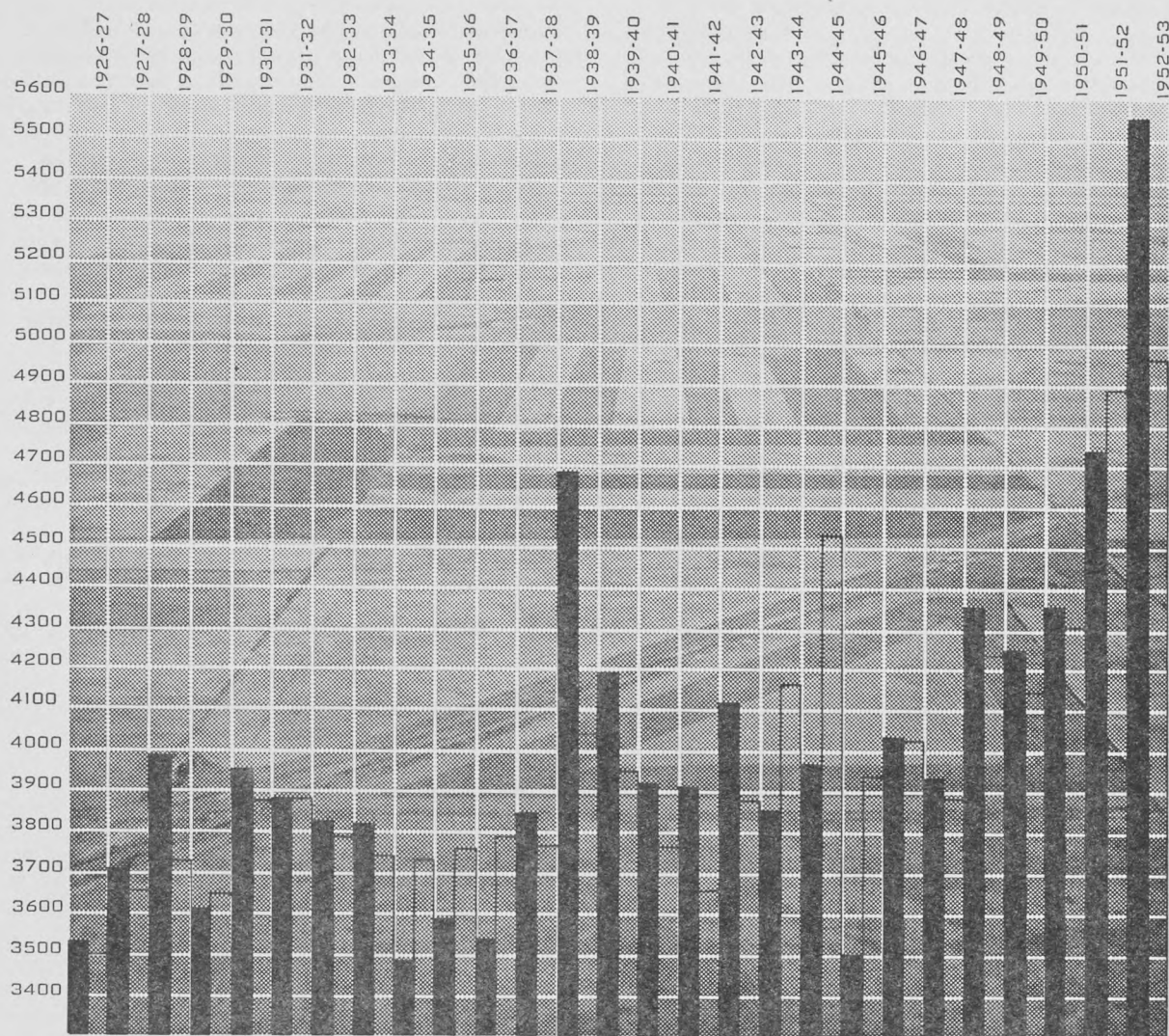


Figure VII—The production and consumption of wheat are rarely in balance during any year. The black bars in the figure above show the annual world wheat production in millions of bushels. Along side them, the unshaded bars show annual consumption during the same year. Consumption (except for the industrial use of wheat in 1943 and 1944) tends to be more stable than production. Because of the instability of production, it is necessary to carry wheat over from one year to another to insure the world's bread eaters against hunger in years when world production is low. The figure is compiled from information in de Hevesy.

Wheat Is a Sluggish Monster

ANOTHER large wheat surplus appeared in midsummer 1943. When the books were closed on the 1942-1943 wheat year, it was revealed that the carryover in exporting countries was almost 1,750,000,000 bushels. So much wheat available for export had never been known. The carryover in July 1943 was almost large enough to supply the international market for three years at the level which wheat had been traded for nearly a decade before the surplus occurred.

A little historical perspective is needed, however, to put this huge surplus in its setting. In midsummer 1943, all of Europe from the Straits of Dover and the Pyrennes to Karkov was in Hitler's hands. The Russian forces had survived the ordeal of Stalingrad and were beginning their push toward Germany. British and American troops had driven the Germans and Italians out of North Africa and, along with Canadian forces, were then engaged in the bloody Sicilian campaign. In the Far East, American and Australian forces were beginning the long road to Tokyo by winning a few outposts in New Guinea.

Under these circumstances, the international wheat trade was hopelessly disorganized. Most of Europe was cut off from the wheat exporting world. The United Kingdom was making tremendous efforts to produce as much food as it could in order to release shipping space for more important war goods. Everywhere food and materials of war were competing for a limited amount of shipping space. War materiel took priority. Thus the international wheat trade was dammed and bins in all exporting countries over-flowed.

* * *

Two factors helped to create the surplus of 1,750,000,000 in 1943. One has been touched on already: The disappearance of traditional markets into the German orbit of power and the shipping shortage. In truth, wheat was one of the earliest economic casualties of the war. The other factor was a succession of good harvests. A reference to Figure VII (World Production and Consumption) shows a surplus of production over consumption in every year from 1937 to 1943. This succession of good years created a situation in which the surplus became unmanageable. Wartime shipping restrictions aggravated the position of exporting countries.

The accumulation of surplus wheat became painfully evident early in 1941. Various countries adopted corrective measures. Canada, for example, on March 12, 1941, announced that farmers in Western Canada would be allowed to market only 223,000,000 bushels of wheat during the crop year beginning August 1. To reduce production to this level, the government suggested that farmers should cut down their wheat acreage to 65 percent of their plantings in 1940. Various incentives such as payment for summerfallow or grassing programs were started at the same time to help reduce acreage. The result was a reduction of wheat acreage from 27,500,000 to 21,000,000 acres or more than 23 per cent.

This reduction was maintained in 1942. The government had set a ceiling of 280,000,000 bushels on deliveries

for 1942. Nature was not interested, however, in the government's plans. Ample moisture fell on the 21,000,000 acres planted to wheat in Western Canada and other conditions were favorable for a bumper crop. The farmers harvested more than 550,000,000 bushels from their reduced acreage—one of the largest crops in the history of the Prairies. Much of this bounteous harvest remained in farm bins, but its existence helped to swell the world carryover to the exceptional figure of nearly 1,750,000,000 bushels.

In the United States attempts were also made to reduce acreage. The United States cut its harvested wheat acreage to less than 50,000,000 acres in 1942. This was below the 10-year (1934-1944) American average of 54,500,000 harvested acres. In spite of the acreage reductions in North America, the surplus continued to pile up, for yields were good in 1941 and 1942.

By the spring of 1943, when Western Canadian farmers began planning their operations for the year they were confronted with congested elevators and full granaries on the farm. Moreover, many inducements were being offered to farmers to shift production to livestock, notably hogs. The result was that farmers cut wheat production drastically.

Official reports list the number of seeded acres on the Prairies for 1943 at about 16,000,000. This was less wheat than Western Canada had seeded in any year since the end of the First World War. The crop was average, about 16 bushels to the acre, and production for the first time in several years was less than exports. The peak was passed, and during the next few years, the Canadian carryover and the world surplus melted away.

* * *

This brief recital once more emphasizes the great importance of a few years of high yield as a factor in creating wheat surpluses. Even effective acreage reduction schemes did not stem the rising tide of wheat surpluses.

When growing conditions are good, it requires a major change in acreage materially to affect the rate at which wheat is accumulated. The world's wheat handling machinery is flexible enough to take two or three years of high yield in its stride. But when the trend of high yields persists beyond three or four years, the wheat growers of the world are in trouble.

Price was not a major factor either in inducing production or in persuading farmers to reduce acreage. In the United States the price of wheat was supported by the government throughout the period. The Canadian price was supported by the government, and, on the eve of the largest single crop during the period, support was raised from 70 to 90 cents a bushel in response to western demands. But in the face of higher price, the number of seeded acres declined.

The explanation appears to lie in the fact that during the early war years wheat was not a readily saleable commodity. At the same time, other farm products bore a higher price tag in relation to wheat and were readily sold.

The farmer turned to the production of things he could sell. In short, the farmer was more concerned with the level of his income than with the level of the prices promised. The logic of his approach is inescapable.

Beginning with the crop year 1943-1944, the world surplus began to melt away. The cause is not to be found so much in a shrinkage of production as in a major expansion in consumption.

The initial impetus in 1943-1944 came from a partial failure of the American crop. Much wheat was needed to feed the expanded animal production of the United States. But this was a temporary phase.

At the same time, the United States embarked on a program of industrial utilization of wheat and other cereals to fill gaps left by the war's dislocation of natural rubber supplies and to meet other war-created shortages. The latter factor accounted for a large part of the sudden spurt in consumption in the two years 1943-1945 shown on Figure VII.

When the war ended (and to a lesser extent before its end as parts of Europe were liberated) the governments of Canada and the United States undertook to feed the hungry people of several continents. North Americans either gave their wheat as part of the general plan to "win the peace" or loaned their customers the money with which to buy it. The result is shown in the gradual, steady increase in wheat consumption and in the corresponding reduction of the wheat surplus. By the middle of 1946, that great surplus of nearly 1,750,000,000 bushels had been consumed. The export carryover was down to 387,000,000.

In the post-war emergency the give-away program was, literally, a life-saver for millions of people. The democratic western world was fortunate to have on hand supplies to meet the tragic needs which developed as nations were liberated. As it was, conditions were miserable for many people over a large part of the world. They would have fared much worse if the wheat exporting countries had not built the "burdensome" surpluses of wheat during the war years, or if they had not had the generosity and the statesmanship to use surpluses wisely.

It is necessary to note the effect of the post-war wheat shortage on acreage in the United States. This is shown in Figure VIII. From 50,000,000 harvested acres of wheat in 1943, the farmers of the United States increased their acreage to more than 76,000,000 by 1949. Last year American farmers harvested about 67,000,000.

There is no doubt that American wheat acreage is one of the large factors

in present wheat situation. But it is not the whole story; the other side is recorded in the recurrence of a series of years of better-than-average yields. Since 1947, world acreage has increased less than seven percent. But world production has increased by more than 20 percent as a result of a series of good harvests.

The increase in U.S. wheat production in recent years was brought about by two factors: Increased acreage and better yields. Behind the rise in acreage lies the high prices which have prevailed. Farmers appear to respond to high prices more readily than they do to price reductions.

In the United States, much of the acreage increase was accounted for by putting back into production land which had been retired from wheat during the dry years. The wisdom of this policy was questioned by many Americans as dust storms once more swept over large parts of the southern Great Plains in 1953 and 1954.

A sharp price reduction could quickly put these acres out of business for, in the most part, they are cultivated

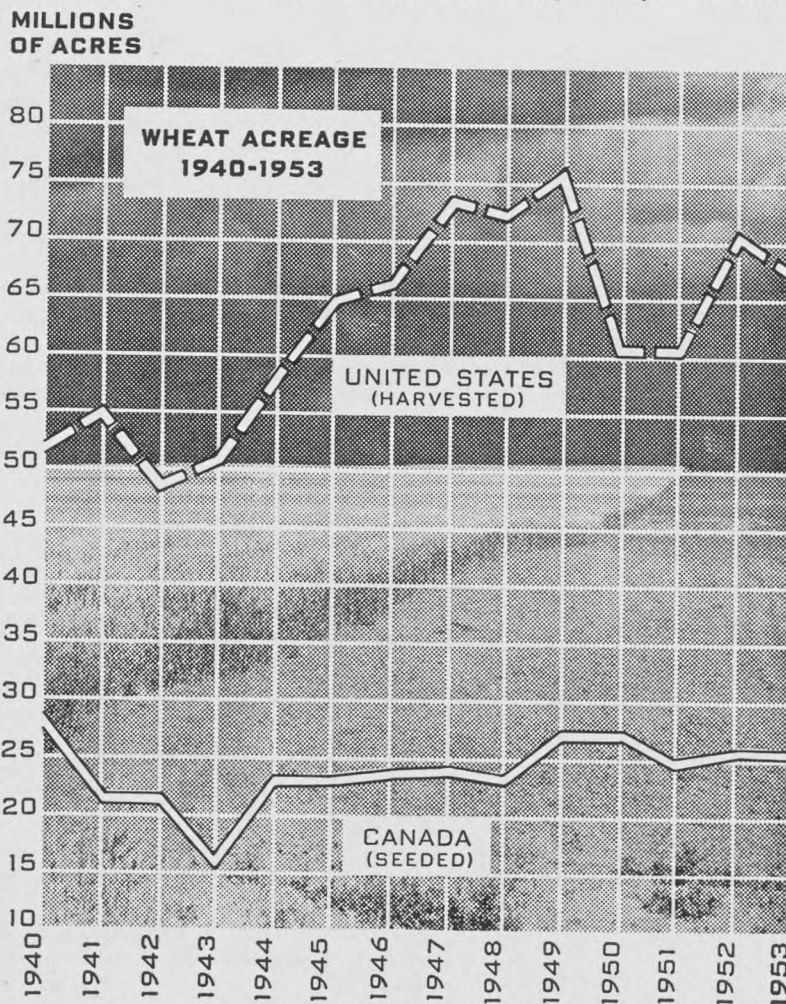


Figure VIII—The number of acres devoted to wheat in Canada since the end of the war has remained relatively stable. In the United States the chart shows broad shifts in acreage figures. In comparing the two lines on the graph, it is necessary to remember that the U.S. line represents harvested acres and that this figure, therefore, is liable to major changes, when unfavorable weather damages a winter wheat crop. The winter wheat grower has alternative crops if the wheat season starts out badly. Once the spring wheat farmer has committed his land to wheat he cannot shift to another crop that season.

not by farmers whose homes are established on them but by farmers established elsewhere or by others who seek a quick profit. It is easier to get in and out of production on these acres than it is on the 50 to 60 million acres normally devoted to wheat in the United States.

Basic trends in the production and consumption of wheat appear from this survey to move slowly. Production has been rising steadily for nearly 80 years. Consumption has been going up, too.

Per capita consumption is fairly constant with, perhaps, a tendency to decline as the standard of living rises. But there are more people eating wheat now than ever before and it is the addition of new customers either through an increasing population or by wider distribution of wheat and its products which pushes up the figures for wheat consumption. But these changes take place slowly. It takes years to alter the consumption habits of people or the organization of enough farms throughout the world to make any significant difference in wheat production. When you consider its response to economic prods, wheat is a sluggish monster.

In the later part of the last century and the early part of the present one, wheat production was expanded rapidly through the expansion of wheat acreage. World acreage has expanded slowly in the last 25 years, but technical improvements in varieties and production methods are bringing about generally higher yields.

This is important in considering the future wheat situation. Changes in the price of wheat are not likely to change production techniques. Farmers who have learned to grow more wheat on a given acreage will not abandon good production methods simply because the price falls. Indeed, they are likely to intensify the search for even better methods in order to reduce unit costs.

In large parts of the world, wheat is a specialized crop and it requires a set of circumstances similar to those which

prevailed in Western Canada during the mid-war years to bring about any major reduction in wheat acreage. The drastic price cuts of the 1930s failed to bring about a sufficient reduction in acreage to correct the apparent over-production.

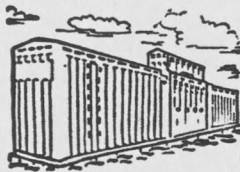
Except on marginal land, the production of wheat is only very slightly related to the price which the producer receives for it. A price reduction appears to cut production only when other agricultural prices remain high and the farmer can see alternative crops which will give him a higher income. This is a rare situation to find.

Consumption is equally inelastic. The price of wheat does not significantly stimulate or retard consumption in parts of the world where wheat has become a standard part of the diet. Occasionally, as in Japan at the present time, a low price for wheat in relation to a high price for rice is encouraging a shift to wheat. But even here the transfer takes place slowly.

Low prices have not stimulated consumption in the past and there is no reason to expect they would do so now. Low prices have caused the erection of serious barriers to international trade in the past. They might do so again.

A final look at Figure VII shows that periods of surplus production have been followed by periods of inadequate production. In the 1930s and again in the 1940s people were able to satisfy their appetites for bread in some years only because they were able to draw upon surpluses that had been built. These cycles are likely to recur.

The problem ahead seems to be to refine and improve the basic machinery which has been set up to carry surpluses from one period to the next so that the wheat grower will not be overwhelmed in the flood of his own success at one time and the consumer left to go hungry when crops decline at another time. And we need to improve living standards in many parts of the world for there are countless potential customers abroad who never really have enough to eat.



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